

Alibaba Nowcasting Delivers Precise Weather Predictions

Short-term AI Weather Forecasting Platform features world-class lead times and accuracy for weather-dependent sectors in China

Hangzhou, China, October 21, 2021 – Alibaba DAMO Academy, the global research initiative by Alibaba Group, has unveiled a cloud-based AI-powered nowcasting platform capable of predicting short-term weather conditions up to six hours in advance.

The Short-term AI Weather Forecasting Platform, now available to Alibaba Cloud's clients in China, produces high-resolution imagery with one-kilometer grid spacing with updates available every 10 minutes. Capable of tracking rainfall, wind speed as well as severe weather conditions such as thunder and hailstorms, the platform promises to deliver tangible value to weather-dependent sectors, including agriculture, logistics, transportation and renewable energy.

For farmers, a timely and accurate weather forecast can minimize damage to crops and livestock; couriers can schedule their routes efficiently on rainy days; and photovoltaic power stations can use cloud formation predictions to better prepare their electricity trading plans.

“Nowcasting has proven a critical technology to help various sectors make informed weather-related decisions. Global technology players are working hard to develop technology-based services that utilize reliable climate data from their respective countries,” said **Rong Jin, Head of the Machine Intelligence Lab at Alibaba DAMO Academy**.

“Using our cutting-edge algorithms and cloud technologies, we have significantly advanced our nowcasting capabilities in China. By doing so, we aim to help businesses meet their climate-related challenges and mitigate the risks of unpredictable weather,” **Jin** added.

The AI-based forecast platform, co-developed by Alibaba DAMO Academy and the National Meteorological Center in China, incorporates a convolutional neural network (CNN) model to effectively extract features from radar reflectivity and meteorological satellite images.

A trained machine-learning model is capable of performing highly accurate and close-to-real-time local weather forecasting in minutes, while Generative Adversarial Network (GAN) works to generate forecast images with exceptional clarity and detail. This AI-based prediction model outperforms the traditional physics-based model, for example the Global/Regional Assimilation and Prediction System (GRAPES) which requires hours to generate forecasting data, by increasing the speed and accuracy of reporting.

Alibaba is committed to using technology innovation to help solve the environmental challenges for industries that require actionable climate-related insights to support their daily operations. For example, grape farmers in Wuhan are using Alibaba Cloud's IoT system to analyze data from the surrounding environment – including soil, humidity and sunlight – to better plan their water and fertilizer management, while pear farmers in Anhui province and pineapple farmers in Hainan province are benefiting from “modern digital farms”, powered by Alibaba's latest cloud and AI technologies.

About Alibaba Cloud

Established in 2009, Alibaba Cloud (www.alibabacloud.com) is the digital technology and intelligence backbone of Alibaba Group. It offers a complete suite of cloud services to customers worldwide, including elastic computing, database, storage, network virtualization services, large-scale computing, security, management and application services, big data analytics, a machine learning platform and IoT services. Alibaba Cloud is China's leading provider of public cloud services by revenue in 2019, including PaaS and IaaS services, according to IDC. Alibaba Group is the world's third leading and Asia Pacific's leading IaaS provider by revenue in 2020 in U.S. dollars, according to Gartner's April 2021 report.

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